

Vannamei hatchery management

Trick or treat?

Quality assurance for Post Larvae: a holistic approach

“THE NEED FOR SEED”

A stable, constant supply of healthy seed is critical to the success of all aquaculture operations.

THE HATCHERY plays a fundamental role in achieving this.

Quality Control at all stages of the production chain is required to ensure a consistent product.



Broodstock

Broodstock health plays a critical role in the performance of larvae during ongoing phase.

Factors that determine broodstock viability include:

- Nutritional status
- Genetic Composition
- Environmental conditions (esp Temp and Stocking Density)
- Adequate stock turnover



Egg Quality

This can be highly variable and closely related to female gonad condition, stress levels at the time of spawning and various environmental parameters.

Monitoring of egg development is important from the first stages of cell division, only batches with high levels of normally fertilised eggs should be further incubated.

All data should be recorded.

Nauplii Quality

Nauplii quality is critical for success during later stages of larvae production.

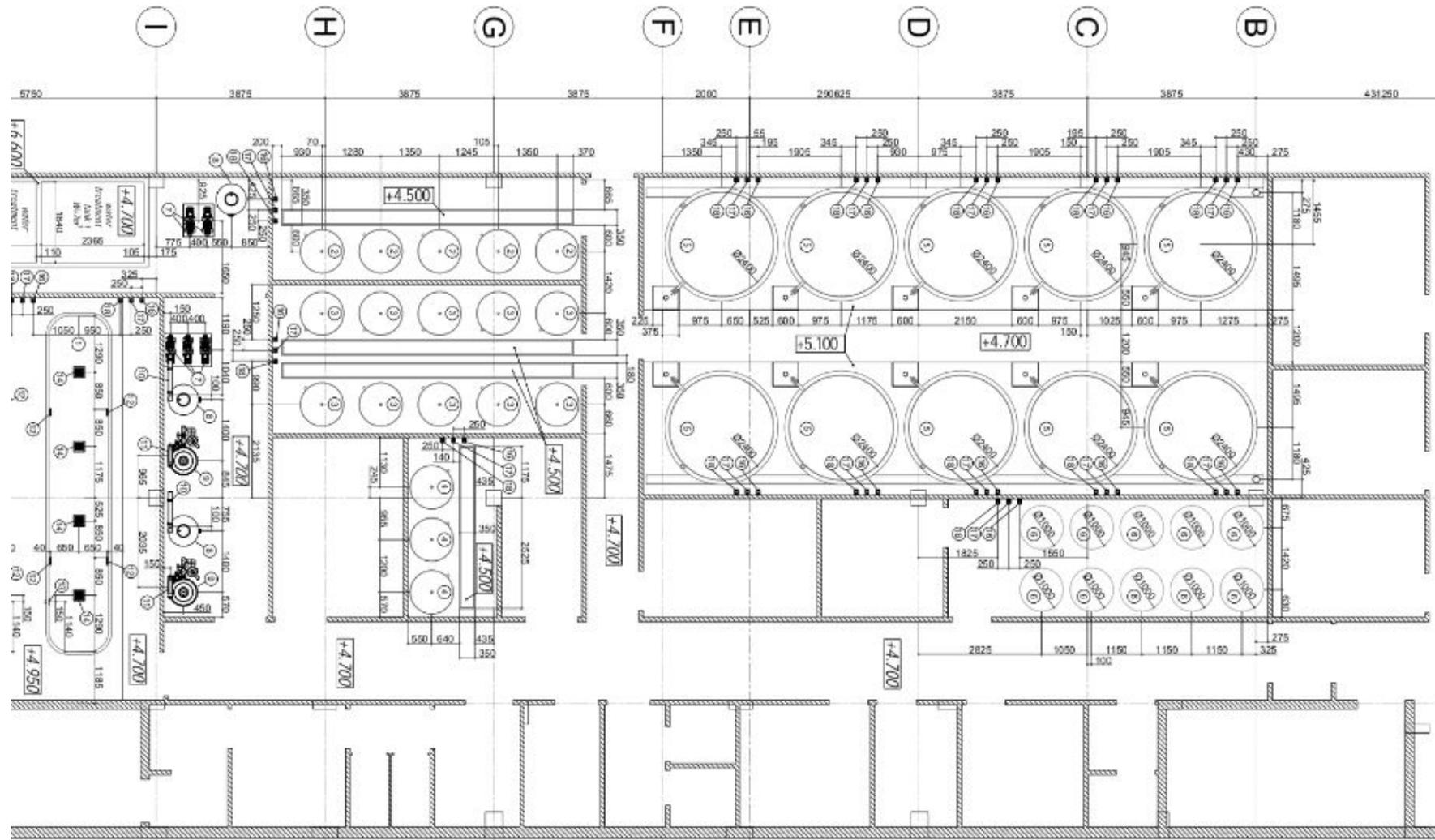
Criteria for selection include:

- Size and colour of vitelline reserve (yolk sac).
- individual size
- Hatch rate proportion
- Deformity (both type and proportion)
- Phototropic response during harvesting

Postlarvae Quality

The main factors that influence postlarvae quality are:

- Stocking Density
- Live feed quality (particularly algae)
- Feed frequency
- Water quality conditions
- Production system hygiene status
- Harvest and despatch practice
- Larvae health status should be monitored constantly by qualified staff



Future Challenges

- Agreed Post Larvae Quality Criteria (Minimum development stage, size variation and standard stress test performance)
- Availability of qualified operators
- At present there are not too many experienced RAS shrimp hatchery workers
- Breeding Centre(s) to provide broodstock
- Currently all production in Europe is reliant on imports from mainland USA and Hawaii
- Matching supply and demand during current growth phase

Thanks so much!

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